

## ABSTRACT

A sensor system for detecting an effector or cofactor comprises (a) a nucleic acid enzyme; (b) a substrate for the nucleic acid enzyme, comprising a first polynucleotide; (c) a first set of particles comprising a second polynucleotide  
5 at least partially complementary to the substrate, where the polynucleotide is attached to the particles at its 3' terminus; and (d) a second set of particles comprising a third polynucleotide at least partially complementary to the substrate, where the polynucleotide is attached to the particles at its 5' terminus.